

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-24. (Canceled).

25. (New) A method of promoting the survival of neuronal cells in a mammal comprising administering to the mammal a therapeutically effective amount of a BMP-11 polypeptide encoded by a nucleotide sequence chosen from:

- (i) nucleotides 778 to 1083 of SEQ ID NO:10;
- (ii) nucleotides sequences that encode the same amino acid sequence as nucleotides 778 to 1083 of SEQ ID NO:10; and
- (iii) nucleotides that hybridize under stringent conditions with the nucleotide sequences of (i) or (ii) and encode a protein having BMP-11 activity in an osteoinduction assay,

thereby promoting the survival of neuronal cells in the mammal.

26. (New) A method of promoting the survival of neuronal cells in vitro comprising administering to the cells a therapeutically effective amount of a BMP-11 polypeptide encoded by a nucleotide sequence chosen from:

- (i) nucleotides 778 to 1083 of SEQ ID NO:10;
- (ii) nucleotides sequences that encode the same amino acid sequence as nucleotides 778 to 1083 of SEQ ID NO:10; and

- (iii) nucleotides that hybridize under stringent conditions with the nucleotide sequences of (i) or (ii) and encode a protein having BMP-11 activity in an osteoinduction assay,

thereby promoting the survival of neuronal cells in the mammal.

27. (New) A method for inducing neurite formation from a neural progenitor cell in a mammal comprising administering to the mammal a therapeutically effective amount of a BMP-11 polypeptide encoded by a nucleotide sequence chosen from:

- (i) nucleotides 778 to 1083 of SEQ ID NO:10;
- (ii) nucleotides sequences that encode the same amino acid sequence as nucleotides 778 to 1083 of SEQ ID NO:10; and
- (iii) nucleotides that hybridize under stringent conditions with the nucleotide sequences of (i) or (ii) and encode a protein having BMP-11 activity in an osteoinduction assay,

thereby inducing neurite formation in the mammal.

28. (New) A method for inducing neurite formation from a neural progenitor cell in vitro comprising treating the neural cell in vitro with a therapeutically effective amount of a BMP-11 polypeptide encoded by a nucleotide sequence chosen from:

- (i) nucleotides 778 to 1083 of SEQ ID NO:10;
- (ii) nucleotides sequences that encode the same amino acid sequence as nucleotides 778 to 1083 of SEQ ID NO:10; and

- (iii) nucleotides that hybridize under stringent conditions with the nucleotide sequences of (i) or (ii) and encode a protein having BMP-11 activity in an osteoinduction assay,

thereby inducing neurite formation from the cell.

29. A method of inducing neuronal cell differentiation from a progenitor cell in a mammal comprising administering to the mammal a therapeutically effective amount of a BMP-11 polypeptide encoded by a nucleotide sequence chosen from:

- (i) nucleotides 778 to 1083 of SEQ ID NO:10;
- (ii) nucleotides sequences that encode the same amino acid sequence as nucleotides 778 to 1083 of SEQ ID NO:10; and
- (iii) nucleotides that hybridize under stringent conditions with the nucleotide sequences of (i) or (ii) and encode a protein having BMP-11 activity in an osteoinduction assay,

thereby inducing neuronal cell differentiation in vitro.

30. A method of inducing neuronal cell differentiation from a progenitor cell in vitro comprising treating the progenitor cell with a therapeutically effective amount of BMP-11 polypeptide encoded by a nucleotide sequence chosen from:

- (i) nucleotides 778 to 1083 of SEQ ID NO:10;
- (ii) nucleotides sequences that encode the same amino acid sequence as nucleotides 778 to 1083 of SEQ ID NO:10; and

- (iii) nucleotides that hybridize under stringent conditions with the nucleotide sequences of (i) or (ii) and encode a protein having BMP-11 activity in an osteoinduction assay,

thereby inducing neuronal cell differentiation in vitro.

31. (New) A method of modulating proliferation of neuronal cells in a mammal comprising administering to the mammal a therapeutically effective amount of a BMP-11 polypeptide encoded by a nucleotide sequence chosen from:

- (i) nucleotides 778 to 1083 of SEQ ID NO:10;
- (ii) nucleotides sequences that encode the same amino acid sequence as nucleotides 778 to 1083 of SEQ ID NO:10; and
- (iii) nucleotides that hybridize under stringent conditions with the nucleotide sequences of (i) or (ii) and encode a protein having BMP-11 activity in an osteoinduction assay,

thereby modulating proliferation of neuronal cells in a mammal.

32. (New) A method of modulating proliferation of neuronal cells in vitro comprising treating the neuronal cells in vitro with a therapeutically effective amount of a BMP-11 polypeptide encoded by a nucleotide sequence chosen from:

- (i) nucleotides 778 to 1083 of SEQ ID NO:10;
- (ii) nucleotides sequences that encode the same amino acid sequence as nucleotides 778 to 1083 of SEQ ID NO:10; and

- (iii) nucleotides that hybridize under stringent conditions with the nucleotide sequences of (i) or (ii) and encode a protein having BMP-11 activity in an osteoinduction assay,

thereby modulating proliferation of neuronal cells in vitro.

33. (New) The method of claim 31 or 32, wherein the administration of the BMP-11 polypeptide increases proliferation of neuronal cells.

34. (New) The method of claim 31 or 32, wherein the administration of the BMP-11 polypeptide decreases proliferation of neuronal cells.

35. (Currently amended) The method of any one of claims 25-32, wherein the BMP-11 polypeptide comprises amino acids 7 to 108 of SEQ ID NO:11.

36. (Currently amended) The method of any one of claims 25-32, wherein the BMP-11 polypeptide comprises amino acids 1 to 109 of SEQ ID NO:11.

37. (New) The method of claim 27 or 28, wherein the neural progenitor cell is a neuronal cell.

38. (New) The method of claim 29 or 30, wherein the progenitor cell is a stem cell.

39. (New) The method of claim 29 or 30, wherein the progenitor cell is a neural cell.

40. (New) The method of claim 29 or 30, wherein the progenitor cell is a neuronal cell.